

## CLAIMS

What is claimed is:

1. A method of operating a communication system, the method comprising:  
receiving a first signal having spectral components within a first frequency band;  
accepting a second signal having spectral components in at least a second frequency band;  
removing a modified version of the first signal from the second signal to produce a third signal; and  
processing the third signal based upon a level of spectral components of the second signal in the second frequency band.
2. The method of claim 1 wherein the first frequency band comprises from approximately 0 Hz to approximately 4 KHz.
3. The method of claim 1 wherein the second frequency band comprises from approximately 4 KHz to approximately 8 KHz.
4. The method of claim 1 wherein the first frequency band and the second frequency band are essentially non-overlapping.
5. The method of claim 1 wherein the modification of the first signal comprises at least one of delaying and attenuating.
6. The method of claim 1 wherein the processing comprises:  
attenuating the third signal when the level of spectral components of the second signal in the second frequency band is below a predetermined level; and  
refraining from attenuating the third signal when the level of spectral components of the second signal in the second frequency band is at or above the predetermined level.
7. The method of claim 1 wherein the communication system comprises a packet network.

8. A method of operating a communication system, the method comprising:  
receiving a first signal having a relatively greater bandwidth;  
processing the first signal to produce a second signal having a relatively lesser bandwidth; and  
the communication system detecting the occurrence of the first signal based upon at least one characteristic of the first signal that is not present in the second signal.

9. The method of claim 8 wherein the at least one characteristic comprises the presence of energy in a portion of the relatively greater bandwidth of the first signal, the portion not being present in the relatively lesser bandwidth of the second signal.

10. A machine-readable storage, having stored thereon a computer program having a plurality of code sections for operating a communication system, the code sections executable by a machine for causing the machine to perform the operations comprising:  
receiving a first signal having spectral components within a first frequency band;  
accepting a second signal having spectral components in a second frequency band;  
removing a modified version of the first signal from the second signal to produce a third signal; and  
processing the third signal based upon a level of spectral components of the second signal in the second frequency band.

11. The machine-readable storage of claim 10 wherein the first frequency band comprises approximately 0 Hz to approximately 4 KHz.

12. The machine-readable storage of claim 10 wherein the second frequency band comprises approximately 4 KHz to approximately 8 KHz.

13. The machine-readable storage of claim 10 wherein the first frequency band and the second frequency band are essentially non-overlapping.

14. The machine-readable storage of claim 10 wherein the modification of the first signal comprises at least one of delaying and attenuating.
15. The machine-readable storage of claim 10 wherein the processing comprises:
  - attenuating the third signal when the level of spectral components of the second signal in the second frequency band is below a predetermined level; and
  - refraining from attenuating the third signal when the level of spectral components of the second signal in the second frequency band is at or above the predetermined level.
16. The machine-readable storage of claim 10 wherein the communication system comprises a packet network.
17. A signal processing device comprising:
  - a first input for receiving a first signal comprising energy in a first frequency band;
  - a second input for receiving a second signal comprising energy in a second frequency band;
  - an echo canceller that receives the first signal and the second signal, the echo canceller producing a third signal; and
  - a non-linear processor that attenuates the third signal based upon a level of energy in the second frequency band of the second input.
18. The device of claim 17 wherein the first frequency band comprises from approximately 0 Hz to approximately 4 KHz.
19. The device of claim 17 wherein the second frequency band comprises from approximately 4 KHz to approximately 8 KHz.
20. The device of claim 17 wherein the first frequency band and the second frequency band are essentially non-overlapping.
21. The device of claim 17 wherein the communication system comprises a packet network.